



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8, MONTANA OFFICE  
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HELENA, MONTANA 59626

Ref: 8MO

March 18, 2008

Ms. Pat Partyka,  
Plains/Thompson Falls Ranger District  
Lolo National Forest  
P.O. Box 429  
Plains, Montana 59859

Re: CEQ 20080042; DeBaugan Fuels Reduction  
Project Draft Environmental Impact  
Statement

Dear Ms. Partyka:

The Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Environmental Impact Statement (DEIS) for the DeBaugan Fuels Reduction Project in accordance with EPA responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. 4231 and Section 309 of the Clean Air Act. Section 309 of the Clean Air Act directs EPA to review and comment in writing on the environmental impacts of any major Federal agency action. EPA's comments include a rating of both the environmental impact of the proposed action and the adequacy of the NEPA document.

The EPA is supportive of the purpose and need of the DeBaugan Fuels Reduction Project to reduce hazardous fuels and fire risk in wildland urban interface (WUI) areas in western Mineral County near the communities of DeBorgia, Haugan, Saltese, and Cabin City where there is high fire risk. As you know the St. Regis River, Twelvemile Creek, Silver Creek, and Big Creek are listed as water quality impaired waters under Clean Water Act, Section 303(d) by the Montana Dept. of Environmental Quality (MDEQ). While we recognize that the primary purpose of the DeBaugan Fuels Reduction Project is reduction of fire risk and severity in WUI areas, we also encourage inclusion of water quality and/or watershed improvement also within project objectives where there are impaired waters.

It is important that the proposed project be consistent with Total Maximum Daily Loads (TMDLs) and Water Quality Plans currently being developed for impaired waters in the project area by the MDEQ. We recommend that the Forest Service to contact MDEQ's TMDL Program staff to assure that the MDEQ considers the proposed DeBaugan Fuels Reduction Project to be consistent with MDEQ development TMDLs and Water Quality Plans in the St. Regis TMDL Planning Area (contact Darrin Kron,

Mark Kelley or Robert Ray of the MDEQ in Helena at 444-4765, 444-3508, or 444-5319, respectively).

We recommend conduct of timber harvests in a manner that poses low risk to water quality and soils, with use of timber harvest methods that minimize ground disturbance and erosion potential; minimize new road construction; and include watershed rehabilitation activities such as road reclamation, road BMP upgrades and road drainage improvements, revegetation, stream and bank stabilization, and other watershed restoration activities along with fuels treatments. Watershed restoration activities are particularly important in drainages of 303(d) listed streams to help offset or compensate for sediment production associated with timber harvest and road construction activities, and thus, avoid further potential for degradation of 303(d) listed waters.

We are pleased that less ground disturbing harvest methods are proposed (e.g., skyline, helicopter, and logging during winter on snow or frozen ground), and that erosion control measures and BMPs, and INFISH riparian and wetland buffers would be used. We are also pleased that the proposed project includes improvement of road conditions (BMP installation on 44 miles of roads), road decommissioning (5.5 miles of road decommissioning), along with culvert removals and replacements. EPA fully supports road BMP and drainage improvements and culvert removals and replacements on forest roads, since these are critical to protecting aquatic health.

The DEIS states that short-term increases in sediment to the St. Regis watershed would result from road construction activities, and estimates this sediment increase at 4.7%, but also estimates that the benefits of road BMP upgrades, culvert replacements, and road closures would result in a sediment decrease of 5.9%, and states that the sediment reductions would accumulate to 264 tons of sediment reduction over 10 years in comparison to no action. We are pleased that this analysis suggests that the proposed project would result in overall water quality benefits in comparison to no action, which would be consistent with water quality restoration. Although we have some concerns that this conclusion appears to be at least partially based on the presumption that road BMP upgrades do not occur under the no action alternative.

It is known that prolonged under-funding of road maintenance on National Forests has resulted in degraded road conditions, and that there is a significant backlog of road maintenance needs on National Forests (Source: *"Rightsizing" the Forest Service Road System Part 1: Road Trend Analysis*, March 22, 2007). The DEIS states that routine annual maintenance would continue on main routes and seasonally restricted roads, but acknowledges that a backlog of 45 miles of roads remain untreated in the project area. We are concerned that the Lolo National Forest may lack adequate funding to maintain forest roads on a continuing basis. Will road BMP upgrades be maintained over time? Unless road BMPs are maintained, sediment reduction benefits from the road BMP upgrades that offset sediment production from timber harvests and road construction may be temporary, and may not contribute to improved water quality restoration over the long term, especially for roads near streams and with many stream crossings.



We are interested in understanding if upgraded road BMPs would be maintained on a continuing basis so that sediment reduction benefits from BMP upgrades would be long-term. We also note that the DEIS states that there will be a net gain of 0.5 miles of road within the project area as a result of the project. This may add to the deferred maintenance backlog. Will the upgraded road BMPs on 44 miles of road and new roads be maintained on a continuing basis so that sediment reduction benefits would be long-term?

We emphasize that roads should be maintained on an on-going basis to minimize sediment delivery, and if inadequate funds are available for road maintenance, we believe road decommissioning should occur to reduce the road network to that which can be maintained within agency budgets and capabilities. We are concerned about additions to the Forest road network given the inadequate road maintenance funding.

The DEIS states that the DeBaugan project area contains approximately 390 miles of roads, and has a total road density averaging approximately 4.1 miles of road per square mile, with approximately 168 classified roads on National Forest land and a National Forest road density of 3.1 mi/mi<sup>2</sup>. DEIS Table 3.10-2 shows that some Forest Plan Management Areas have extremely high road densities (e.g., 23 mi/mi<sup>2</sup> in MA 7; 10.05 mi/mi<sup>2</sup> in MA 2; 9.27 mi/mi<sup>2</sup> in MA 5; 5.29 mi/mi<sup>2</sup> in MA 13). EPA very much supports road decommissioning and reductions in road density, since increasing road density, especially road stream crossing density, has been inversely correlated with aquatic health in many areas.

We particularly support low road density in bull trout watersheds such as the St. Regis River watershed. The U.S. Fish & Wildlife Service in its 1998 Bull Trout Interim Conservation Guidance identified the importance of road densities for bull trout conservation, showing general exclusion of bull trout in watersheds with high road densities (e.g., over 1.7 mi/mi<sup>2</sup> of roads), and showing bull trout strongholds to have low road densities (e.g., an average 0.45 mi/mi<sup>2</sup> of roads). Twenty of the twenty six management areas shown in Table 3.10-2 exceed the USFWS bull trout exclusion threshold road density of 1.7 mi/mi<sup>2</sup>, and all the private lands in the project area exceed this threshold.

If possible, we encourage the Lolo National Forest to consider including additional road decommissioning in the DeBaugan project area to further reduce road densities in the area, particularly in drainages with high road density, water quality problems and/or fisheries habitat impacts related to roads. Additional road closure and road reclamation/storage activities would better demonstrate that water quality benefits would result from the proposed project and would accrue over the long-term. Closures of roads near streams with many stream crossings are more likely to have water quality and fisheries benefits than closure/decommissioning of roads on upper slopes and ridges. We believe road networks should be limited to those that are necessary for access and management, and which can be adequately maintained within agency budgets and capabilities.



We also note that there is often a relationship between higher road density and increased forest use and increased human caused fire occurrence. Reduction in road density, therefore, may also reduce risks of human caused fires, which could be important in the Debaugan area with high fuels/fire risk and wildland urban interface issues. Roads also fragment and degrade wildlife habitat, displace wildlife and change behavior, reduce reproductive success and security, and increase wildlife stress and mortality, and are a major vector for spreading weeds.

It would be helpful if an anticipated schedule of implementation for project activities, including watershed improvement activities, could be provided in the FEIS to allow improved understanding of when watershed restoration activities are likely to be implemented in relation to timber harvest and road construction activities. This would allow improved understanding of the time frame for sediment increases from vegetative treatments and road construction vs. sediment reductions from watershed restoration activities, and improved understanding of temporal impacts. If funding to implement needed watershed restoration is limited, we suggest listing restoration activities which have assured funding (i.e., can be implemented on a timely basis), and restoration activities which need additional appropriated funds (and may be implemented at a later date), separately.

Finally we want to note that for we generally favor understory thinning from below, slashing and prescribed fire to address fuels build-up with reduced ecological impacts, and encourage retention of the larger more vigorous trees, particularly trees of desirable tree species whose overall composition are in decline (e.g., western larch, western white pine, whitebark pine, Ponderosa pine). The proposed DeBaugan Fuels Reduction project appears to be generally consistent with these objectives, although the project includes a significant amount of commercial timber harvest, and the extent of proposed harvest of large healthy trees of desirable tree species is not entirely clear. The DEIS states that old 1910 fire survivor trees and patches would be reserved from harvest, but some survivor trees may be removed to achieve desired crown fuel conditions.

We would have concerns if many large healthy trees of the aforementioned declining tree species are proposed. We recommend that the extent of proposed harvest of large healthy trees of desirable tree species be further described. We also suggest that you consider protecting large survivor trees by pruning lower limbs of survivor trees and slashing and burning nearby brush and small trees to remove ladder fuels under the canopy of the large survivor trees.

The EPA's further discussion and more detailed questions, comments, and concerns regarding the analysis, documentation, or potential environmental impacts of the DeBaugan Fuels Reduction Project are included in the enclosure with this letter. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the DeBaugan Fuels Reduction Project DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information). A copy of EPA's rating criteria is attached.



The EPA appreciates the opportunity to review and comment on the DEIS. If we may provide further explanation of our concerns please contact Mr. Steve Potts of my staff in Helena at (406) 457-5022 or in Missoula at 406-329-3313.

Sincerely,

/s/ John F. Wardell  
Director  
Montana Office

Enclosures

cc: Larry Svoboda/Julia Johnson, EPA 8EPR-N, Denver  
Robert Ray/Mark Kelley, MDEQ, Helena



## EPA COMMENTS ON DEBAUGAN FUELS REDUCTION PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT

### Brief Project Overview:

The Lolo National Forest (LNF) Superior Ranger District has developed the DeBaugan Fuels Reduction Project to modify fuel conditions on National Forest System lands within the wildland urban interface (WUI) of western Mineral County, near the communities of DeBorgia, Haugan, Saltese, and Cabin City, to decrease the probability of future crown fires, reduce surface fire intensity, and improve opportunities for fire suppression before fires spread into community areas. Mountain pine beetles have caused mortality to a large proportion of lodgepole pine trees across the project area.

The project is being proposed under the authority of the Healthy Forests Restoration Act (HFRA), which expedites environmental analysis by limiting the number of alternatives as long as they are consistent with the Forest Plan and other policies or decisions applicable to Federal land covered by the project. The HFRA also requires that projects be prepared in collaboration with interested parties. Residents in the area and other cooperators in the area prepared a *Mineral County Community Wildfire Protection Plan* to reduce wildfire risks to homes.

Two alternatives have been analyzed: **Alternative 1**, the no action alternative, in which no activities would be carried out, and which serves as a baseline for comparison with the action alternatives; and **Alternative 2**, the modified proposed action that was developed collaboratively with a diverse group of interested parties, and which is consistent with the goals of the *Mineral County Community Wildfire Protection Plan*.

Alternative 2 would commercially thin 3,330 acres; pre-commercial thin 500 acres; harvest via seed tree and shelterwood methods 424 acres; slash and handpile 16 acres near private lands; and use prescribed burning on 1142 acres; and burn 1512 acres following commercial harvests; and pile burn 706 harvested acres. Commercial harvests would be carried out via tractor (970 acre), skyline cable (526 acres), and helicopter logging (2258 acres). Approximately 5 miles of temporary road and 6 miles of permanent road would be constructed, and 7 miles of road would be reconstructed and 44 miles of road improved with road BMP implementation, with 2 miles of road closure and 5.5 miles of road decommissioning, and 70 miles of noxious weed spraying along roads. All proposed treatments are within the WUI as identified in the *Mineral County Community Wildfire Protection Plan*.

### **Comments:**

1. We appreciate the listing of management requirements that would be applied to Alternative 2, particularly the mitigation measures for protection of soils, water quality and fisheries (pages 2-8 to 2-13), as well as inclusion of clear project maps in Appendix A, treatment unit summaries in Appendix B, and BMPs in Appendix B. This information facilitates improved project understanding and evaluation of



alternatives, and helps provide a clearer basis of choice among options for the decisionmaker and the public in accordance with the goals of NEPA.

2. We are somewhat confused regarding apparent inconsistencies in the description of proposed road work between Table 2-2 that summarizes road treatments for Alternative 2 (page 2-6) and the discussion of road work for the proposed action in Chapter 1, page 1-9. For example, on page 1-9 it is stated that 8 miles of temporary road, and 3 miles of permanent road would be constructed, and 46 miles of road BMPs, 15 miles of road decommissioning, and 30 miles of herbicide treatments along roads are proposed; whereas Table 2-2 indicates 5 miles of temporary road and 6 miles of permanent road would be constructed, along with 7 miles of road reconstruction (put in storage following treatments), 44 miles of road BMPs, 2 miles of road closure, 5.5 miles of road decommissioning, and 70 miles of noxious weed spraying along roads. These differences may be due to modifications of the proposed action that are being proposed with Alternative 2, but the DEIS did not clearly state this. We recommend that the FEIS provide clarification.
3. The EPA supports conduct of activities to reduce hazardous fuels and fire risk in wildland urban interface (WUI) areas near homes and structures where there is high fire risk. We generally favor understory thinning from below, slashing and prescribed fire to address fuels build-up with reduced ecological impacts. We also favor retention of the larger more vigorous trees, particularly trees of desirable tree species whose overall composition is in decline (e.g., western larch, western white pine, whitebark pine, Ponderosa pine). The larger healthier trees are generally long-lived and fire resistant, and provide important wildlife habitat. Harvest of many live mature trees could potentially increase fire risk, as well as reduce wildlife habitat. If the forest canopy is opened too much by removal of large fire resistant trees it may promote more vigorous growth of underbrush and small diameter trees that would increase fuels and fire risk in subsequent years, contrary to the fire risk reduction purpose and need.

The proposed DeBaugan Fuels Reduction project appears to be generally consistent with these objectives, although the project includes a significant amount of commercial timber harvest, and the extent of proposed harvest of large healthy trees of desirable tree species with the proposed harvests is not entirely clear. The DEIS states that survivor trees and patches would be reserved from harvest, but some survivor large trees may be removed to achieve desired crown fuel conditions (page 3-52). We would have concerns if many large healthy trees of the aforementioned declining tree species are proposed. We recommend that the extent of proposed harvest of large healthy trees of desirable tree species be further described or clarified.

We also suggest that you consider protecting the large old trees that survived the 1910 fires by pruning lower limbs of survivor trees and slashing and burning nearby brush and small trees to remove ladder fuels under the canopy of the large survivor trees.



## Hydrology/Water Quality

4. We encourage inclusion of water quality and watershed improvement within the purpose and need of forest land management projects, particularly where there are water quality impaired waters within the project area (i.e., waters listed as impaired by the State under Section 303(d) of the Clean Water Act). As you know the St. Regis River, Twelvemile Creek, Silver Creek, and Big Creek are water quality impaired waters in the project area that are listed under Section 303(d) by the Montana DEQ (page 3-79). While we understand that the primary purpose of the DeBaugan Fuels Reduction Project is reduction of fire risk and severity in WUI areas, we encourage inclusion of water quality and/or watershed improvement also within the objectives of the proposed project, since the area includes impaired water quality.

It is EPA's policy that proposed activities in the drainages of 303(d) listed streams should not cause further degradation of water quality, and should be consistent with the State's TMDLs and water quality restoration plans. Such consistency means that if pollutants may be generated during project activities, mitigation or restoration activities should also be included to reduce existing sources of pollution to offset or compensate for pollutants generated during project activities in accordance with the TMDL and long-term restoration plan. Recognizing uncertainties and desiring a margin of safety, such compensation should more than offset pollutants generated, resulting in overall reductions in pollution consistent with long-term water quality improvement and restoration of support of beneficial uses. Watershed restoration activities that compensate for pollutant production during management activities in watersheds of 303(d) listed streams should also be implemented within a reasonable period of time in relation to pollutant producing activities (e.g., 5 years).

It is important that the proposed DeBaugan Fuels Reduction project be consistent with Total Maximum Daily Loads (TMDLs) and Water Quality Plans currently being developed for impaired waters in the project area by the Montana Dept. of Environmental Quality (MDEQ). We encourage the Forest Service to contact MDEQ's TMDL Program staff to assure that the MDEQ considers the proposed DeBaugan Fuels Reduction Project to be consistent with MDEQ development TMDLs and Water Quality Plans in the St. Regis TMDL Planning Area (contact Darrin Kron, Mark Kelley or Robert Ray of the MDEQ in Helena at 444-4765, 444-3508 or 444-5319, respectively).

5. We support conduct of timber harvests in a manner that poses low risk to water quality and soils, with use of timber harvest methods that minimize ground disturbance and erosion potential; minimize new road construction, and include watershed rehabilitation activities such as road obliteration, road BMP upgrades and road drainage improvements, revegetation, stream and bank stabilization, and other watershed restoration activities along with fuels treatments. Watershed restoration activities are particularly important in drainages of 303(d) listed streams to help offset or compensate for sediment production associated with timber harvest and road construction activities, and thus, avoid further potential for degradation of 303(d)



listed waters.

We are pleased that less ground disturbing harvest methods are proposed (e.g., skyline, helicopter, and logging during winter on snow or frozen ground), and that erosion control measures and BMPs, and INFISH riparian and wetland buffers would be used. We are also pleased that the proposed project includes improvement of road conditions (BMP installation on 44 miles of roads), road decommissioning (5.5 miles of road decommissioning), along with culvert removals and replacements. EPA fully supports road BMP and drainage improvements and culvert replacements on forest roads, since these are critical to protecting aquatic health.

The proposed project also includes construction of approximately 5 miles of new temporary road, 6 miles of new more permanent road, and 7 miles of road reconstruction (Table 2-2, page 2-6), although as noted in an earlier comment there is some confusion regarding the extent of proposed road work. New road construction/reconstruction always creates some concern, since as you know sediment from road construction, and from erosion of roads on the transportation system, particularly erosion of poorly maintained roads with inadequate road drainage, is often a major cause of adverse water quality impacts in forests.

The DEIS states that short-term increases in sediment to the St. Regis watershed system would result from project road construction activities (page 3-83), and estimates this sediment increase at 4.7%. The DEIS, however, also estimates that the benefits of road BMP upgrades, culvert replacements, and road closures would result in a sediment decrease of 5.9%, and states that sediment reductions would be ongoing and accumulate to 264 tons of sediment reduction over 10 years in comparison to no action. We are pleased that this analysis suggests that the proposed project would result in overall water quality benefits in comparison to no action. Although we have some concerns that this conclusion appears to be at least partially based on the presumption that road BMP upgrades do not occur under the no action alternative.

We have been concerned about the lack of resources available for proper maintenance of Forest Service roads. It is known that prolonged under-funding of road maintenance on National Forests has resulted in degraded road conditions, and that there is a significant backlog of road maintenance needs on National Forests (Source: *"Rightsizing" the Forest Service Road System Part 1: Road Trend Analysis*, March 22, 2007). The DEIS states that routine annual maintenance would continue on main routes and seasonally restricted roads, but also acknowledges that a backlog of 45 miles of roads remain untreated in the project area. We are concerned that the Lolo National Forest may lack adequate funding to maintain forest roads on a continuing basis. Will road BMP upgrades be maintained over time? Unless road BMPs are maintained, sediment reduction benefits from the road BMP upgrades that offset sediment production from timber harvests and road construction may be temporary, and may not contribute to improved water quality restoration over the long term, especially for roads near streams and with many stream crossings.



We are interested in understanding if upgraded road BMPs would be maintained on a continuing basis so that sediment reduction benefits from BMP upgrades would be long-term. We also note that the DEIS states that there will be a net gain of 0.5 miles of road within the project area as a result of the project, which will likely add to the deferred maintenance backlog. Will the upgraded road BMPs on 44 miles of road be maintained on a continuing basis so that sediment reduction benefits from BMP upgrades would be long-term?

We also note that the DEIS states that there will be a net gain of 0.5 miles of road within the project area as a result of the project (page 3-89), which will likely add to the deferred maintenance backlog. Will the upgraded road BMPs on 44 miles of road be maintained on a continuing basis so that sediment reduction benefits from BMP upgrades would be long-term?

It would be helpful if an anticipated schedule of implementation for project activities, including watershed improvement activities, could be provided to allow improved understanding of when watershed restoration activities are likely to be implemented in relation to timber harvest and road construction activities. This would allow improved understanding of the time frame for sediment increases from vegetative treatments and road construction vs. sediment reductions from watershed restoration, and improved understanding of temporal impacts. If funding to implement needed watershed restoration is limited, we suggest listing restoration activities which have assured funding (and which can be implemented on a timely basis), and restoration activities which need additional appropriated funds (and may be implemented at a later date), separately.

We emphasize that roads should be maintained on an on-going basis to minimize sediment delivery, and if inadequate funds are available for road maintenance, we believe road decommissioning should occur to reduce the road network to that which can be maintained within agency budgets and capabilities. We are concerned about additions to the Forest road network given the situation with inadequate road maintenance funding.

We do want to emphasize, however, that we are pleased about proposed road closure/decommissioning, road BMP and drainage improvements, application of slash filter windrows at 41 road stream crossings, removal of 15 culverts, replacement of 10 undersized culverts, and correcting 13 fish passage barriers (page 3-109), all of which will be beneficial to water quality and fisheries (page 3-88). We are also pleased that many other watershed improvement activities have been carried out in recent years that have improved stream channel conditions and fish habitat (e.g., three mine site reclamations, 66 miles of road decommissioning, 50 culvert removals, 11 culvert replacements, and 2100 feet of stream channel improvements and habitat enhancement, page 3-89).

We also agree that it is likely that potential for adverse water quality effects would appear to be greater under Alternative 1 than under Alternative 2 if a large wildfire



were to occur (pages 3-82, 3-105), although such impacts cannot be predicted or quantified with any degree of accuracy.

6. The DEIS states that the DeBaugan project area contains approximately 390 miles of roads, and has a total road density averaging approximately 4.1 miles of road per square mile, with approximately 168 classified roads on National Forest land and a National Forest road density of 3.1 miles/miles<sup>2</sup> (page 3-193). Table 3.10-2 (page 3-194) shows that some Forest Plan Management Areas have extremely high road densities (e.g., 23 mi/mi<sup>2</sup> in MA 7; 10.05 mi/mi<sup>2</sup> in MA 2; 9.27 mi/mi<sup>2</sup> in MA 5; 5.29 mi/mi<sup>2</sup> in MA 13).

EPA very much supports road decommissioning and reductions in road density, since increasing road density, especially road stream crossing density, has been inversely correlated with aquatic health in many areas. We particularly support low road density in bull trout watersheds such as the St. Regis River watershed. The U.S. Fish & Wildlife Service in its 1998 Bull Trout Interim Conservation Guidance identified the importance of road densities for bull trout conservation, showing general exclusion of bull trout in watersheds with high road densities (e.g., over 1.7 mi/mi<sup>2</sup> of roads), and showing bull trout strongholds to have low road densities (e.g., an average 0.45 mi/mi<sup>2</sup> of roads). Twenty of the twenty six management areas shown in Table 3.10-2 exceed the USFWS bull trout exclusion threshold road density of 1.7 mi/mi<sup>2</sup>, and all the private lands exceed this threshold.

We also note that there is often a relationship between higher road density and increased forest use and increased human caused fire occurrences. Reduction in road density, therefore, may also reduce risks of human caused fires, which could be important in an area with high fuels/fire risk and/or wildland urban interface (WUI) issues. In addition, lower road densities are also often associated with improved improved wildlife habitat and security.

If possible, we encourage the Lolo National Forest to consider including additional road decommissioning in the DeBaugan project area to further reduce road densities in the area, particularly in drainages with high road density, water quality problems and/or fisheries habitat impacts related to roads. Closures of roads near streams with many stream crossings are more likely to have water quality and fisheries benefits than closure/decommissioning of roads on upper slopes and ridges.

7. We appreciate the inclusion of guidance and road BMPs in the Appendix C list of BMPs. For your information and consideration, EPA's general recommendations regarding road construction are:

- \* minimize road construction and reduce road density as much as possible to reduce potential adverse effects to watersheds;
- \* locate roads away from streams and riparian areas as much as possible;

- \* locate roads away from steep slopes or erosive soils;
- \* minimize the number of road stream crossings;
- \* stabilize cut and fill slopes;
- \* provide for adequate road drainage and control of surface erosion with measures such as adequate numbers of waterbars, maintaining crowns on roads, adequate numbers of rolling dips and ditch relief culverts to promote drainage off roads avoid drainage or along roads and avoid interception and routing sediment to streams;
- \* consider road effects on stream structure and seasonal and spawning habitats;
- \* allow for adequate large woody debris recruitment to streams and riparian buffers near streams;
- \* properly size culverts to handle flood events, pass bedload and woody debris, and reduce potential for washout;
- \* replace undersized culverts and adjust culverts which are not properly aligned or which present fish passage problems and/or serve as barriers to fish migration;
- \* use bridges or open bottom culverts that simulate stream grade and substrate and that provide adequate capacity for flood flows, bedload and woody debris where needed to minimize adverse fisheries effects of road stream crossings.

8. We also encourage conduct of inspections and evaluations to identify conditions on roads and other anthropogenic sediment sources in the watersheds in the project area that may cause or contribute to sediment delivery and stream impairment, and to include activities in the project to correct as many of these conditions and sources as possible.

Grading of unpaved roads in a manner that contributes to road erosion and sediment transport to streams and wetlands should be avoided. It is important that management direction assures that road maintenance (e.g., blading) be focused on reducing road surface erosion and sediment delivery from roads to area streams. Practices of expediently sidecasting graded material over the shoulder and widening shoulders and snow plowing can have adverse effects upon streams, wetlands, and riparian areas that are adjacent to roads. Avoidance of use of roads during wet conditions and spring break-up is particularly important for roads that encroach upon stream channels. Snow plowing of roads later in winter for log haul should also be avoided to limit runoff created road ruts during late winter thaws that increase road erosion (i.e., ruts channel road runoff along roads).

Forest Service Region 1 provides training for operators of road graders regarding



conduct of road maintenance in a manner that protects streams and wetlands, (i.e., Gravel Roads Back to the Basics). If there are road maintenance needs on unpaved roads adjacent to streams and wetlands we encourage utilization of such training (contact Donna Sheehy, FS R1 Transportation Management Engineer, at 406-329-3312).

We also note that there are training videos available from the Forest Service San Dimas Technology and Development Center for use by the Forest Service and its contractors (e.g., "Forest Roads and the Environment"-an overview of how maintenance can affect watershed condition and fish habitat; "Reading the Traveled Way"-how road conditions create problems and how to identify effective treatments; "Reading Beyond the Traveled Way"-explains considerations of roads vs. natural landscape functions and how to design maintenance to minimize road impacts; "Smoothing and Reshaping the Traveled Way"-step by step process for smoothing and reshaping a road while maintaining crowns and other road slopes; and "Maintaining the Ditch and Surface Cross Drains"-instructions for constructing and maintaining ditches, culverts and surface cross drains).

9. We are pleased that the water yield analysis indicates that none of the project area watersheds, either individually or collectively, would be at risk of destabilization from the proposed activities (page 3-91), and that you do not anticipate effects to stream channels from increased water yield.
10. Thank you for identifying landtypes within the DeBaugan Project area (Table 3.7-1, page 3-120). We found it difficult to determine which, if any, ground based harvest units may be proposed on landtypes with high sensitivity to ground based harvest (i.e., landtypes 10UB, 13UA, 13UC, 60QA, 60QB, 60QC, 60QD, 60MB, 60MC, 60MD, 61QC, 61QD, 26UA, 64QB, 64QC). It would be of interest to clearly identify if ground based harvest units are proposed on the landtypes with a high sensitivity to ground based harvest.

We generally recommend that areas of high risk of landslide or debris flows should be avoided and that areas of high erosion risk either be avoided or at least designated for less disturbing logging methods to reduce erosion potential and assure soil and water quality protection. We are pleased that helicopter logging and skyline cable and winter logging will be used on many units (page 3-132), and that landings and compacted skid trails would be ripped, topsoil replaced, and woody debris spread following harvest. We are also pleased that illegal user-created all-terrain vehicle trails in Units 51 and 83 would be restored (page 2-11).

#### Wetlands/Riparian Areas

11. EPA considers the protection, improvement, and restoration of wetlands and riparian areas to be a high priority. Wetlands and riparian areas increase landscape and species diversity, support many species of western wildlife, and are critical to the protection of designated water uses. Wetlands in particular have experienced severe

cumulative losses nationally. Potential impacts on wetlands include: water quality, habitat for aquatic and terrestrial life, flood storage, ground water recharge and discharge, sources of primary production, and recreation and aesthetics. Executive Order 11990 requires that all Federal Agencies protect wetlands. In addition national wetlands policy has established an interim goal of **No Overall Net Loss of the Nation's remaining wetlands**, and a long-term goal of increasing quantity and quality of the Nation's wetlands resource base (see "Presidential Wetland Policy of 1993" at website,

<http://www.usace.army.mil/inet/functions/cw/cecwo/reg/aug93wet.htm>).

The EPA evaluates land management activities proposed within the Interior Columbia Basin for consistency with the provisions of the Interagency Memorandum of Understanding between the Forest Service, BLM, EPA, USFWS, and NMFS for Forest Service implementation of the Interior Columbia Basin Strategy on National Forest lands (referred to as the ICB Strategy, see <http://www.icbemp.gov/html/icbstrat.pdf> , and <http://www.icbemp.gov/html/aqripfrm7804.pdf> ).

Riparian Habitat Conservation Areas (RHCAs) are an important management element in the ICB Strategy to maintain and restore the health of watersheds, riparian, and aquatic resources to sustain aquatic and terrestrial species and provide water of sufficient quality and quantity to support beneficial uses. It is important that proposed activities be consistent with the riparian management objectives described in the ICB Strategy, which include:

- \* Achieve physical integrity of aquatic ecosystems;
- \* Provide an amount and distribution of woody debris sufficient to sustain physical and biological complexity;
- \* Provide adequate summer and winter thermal regulation;
- \* Provide appropriate amounts and distributions of source habitats for riparian- or wetland-dependent species; and
- \* Restore or maintain water quality and hydrologic processes.
- \* Restore or maintain naturally functioning riparian vegetation communities.

We are pleased that INFISH 300 foot buffers would be used to protect streams and riparian areas, and 150 foot buffers would be used around wetlands greater than one acre, and 50 foot buffers around wetlands less than one acre (page 2-9). It is important that no timber harvest, temporary road construction, or operation of heavy equipment occur in wetlands. We recommend that wetland and riparian buffer boundaries be identified on the Sale Area Map and flagged in the field so that timber contractors will be able to avoid them.

#### Monitoring

12. We believe monitoring should be an integral part of land management. The EPA endorses the concept of adaptive management whereby effects of implementation



activities are determined through monitoring (i.e., ecological and environmental effects). It is through the iterative process of setting goals and objectives, planning and carrying out projects, monitoring impacts of projects, and feeding back monitoring results to managers so they can make needed adjustments, that adaptive management works. In situations where impacts are uncertain, monitoring programs allow identification of actual impacts, so that adverse impacts may be identified and appropriately mitigated.

We appreciate the discussion of monitoring on DEIS pages 2-13 to 2-15. The EPA believes that water quality/aquatics monitoring is an important element in identifying and understanding the consequences of one's actions, and for determining effectiveness in BMPs in protecting water quality. The achievement of water quality standards for non-point source activities occurs through the implementation of BMPs. Although BMPs are designed to protect water quality, they need to be monitored to verify their effectiveness. If found ineffective, the BMPs need to be revised, and impacts mitigated. We encourage adequate monitoring budgets for conduct of aquatic monitoring to document BMP effectiveness on timber harvests and water quality improvements associated with road BMP work.

It appears that only BMP and RHCA buffer monitoring is proposed. While we support this implementation monitoring, we also encourage conduct of at least some water quality and stream channel and aquatic habitat monitoring to better validate that BMPs and mitigation measures were effective in protecting water quality and fisheries. We also believe it is valuable wherever possible to do monitoring to determine actual project effects on water quality and stream channels (aquatic habitat) to verify that aquatic impact predictions were accurate. This is particularly true where there are 303(d) listed streams in the project area. We realize that budgets for monitoring are limited, but perhaps there may be PACFISH/INFISH Biological Opinion (PIBO) monitoring sites in the project area that could be used to help evaluate actual project aquatic effects (<http://www.fs.fed.us/biology/fishecology/emp/index.html>).

Examples of potential aquatic monitoring parameters that should be considered include channel cross-sections, bank stability, width/depth ratios, riffle stability index, pools, large woody debris, fine sediment, pebble counts, macroinvertebrates, etc.. The EPA especially appreciates inclusion of biological monitoring. Monitoring of the aquatic biological community is desirable since the aquatic community integrates the effects of pollutant stressors over time and, thus, provides a more holistic measure of impacts than grab samples. For your information, the EPA encourages use of the following reference materials in designing an aquatic monitoring program:

The Forest Service publication, "Guide to Effective Monitoring of Aquatic and Riparian Resources," RMRS-GTR-121, available at, [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr121.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr121.html) .

The Forest Service publication, "Testing common stream sampling methods for broad-scale, long-term monitoring," RMRS-GTR-122, available at, [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr122.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr122.html) .

"Aquatic and Riparian Effectiveness Monitoring Plan for the Northwest Forest Plan," Gordon H. Reeves, David B. Hohler, David P. Larsen, David E. Busch, Kim Kratz, Keith Reynolds, Karl F. Stein, Thomas Atzet, Polly Hays, and Michael Tehan, February 2001. Available on-line at, [www.reo.gov/monitoring/watershed/aremp-compile.htm](http://www.reo.gov/monitoring/watershed/aremp-compile.htm) .

Monitoring Guidelines to Evaluate Effects of Forestry Activities in the Pacific Northwest and Alaska; Lee H. McDonald, Alan W. Smart and Robert C. Wissmar; May 1991; EPA/910/9-91-001;

"Aquatic Habitat Indicators and Their Application to Water Quality Objectives Within the Clean Water Act," Stephen B. Bauer and Stephen C. Ralph, 1999, EPA-910-R99-014. (This publication is available on-line at, <http://www.pocketwater.com/reports/ahi.pdf> )

Western Pilot Study: Field Operations Manual for Wadeable Streams; Environmental Monitoring and Assessment Program Protocols, Edited by David V. Peck, James M. Lazorchak, and Donald J. Klemm, April 2001, available on-line at, <http://www.epa.gov/emap/html/pubs/docs/groupdocs/surfwatr/field/ewwsm01.pdf> .

Montana DEQ's Water Quality Monitoring and Assessment information can be found on the website, <http://www.deq.state.mt.us/wqinfo/monitoring/index.asp>

Rapid Bioassessment Protocols for use in Streams and Rivers; James A. Plafkin, May 1989, EPA/444/4-89-001.

"Montana Stream Management Guide; for Landowners, Managers, and Stream Users", Montana Dept. Of Environmental Quality; December 1995.

The Forest Service Region 5 document entitled, "Water Quality Management for Forest System Lands in California: Best Management Practices," September 2000, is a useful reference for BMP development and BMP effectiveness monitoring. It can be found at the website, <http://fsweb.r5.fs.fed.us/unit/ec/water/water-best-mgmt.pdf> .

"Protocol for Developing Sediment TMDLs" EPA 841-B-99-004, October 1999 <http://www.epa.gov/owow/tmdl/sediment/pdf/sediment.pdf>

#### Wildlife/ T&E Species

13. We are pleased that no known or suspected old growth stands are proposed for vegetative manipulation (page 3-50). We support protection of old growth habitats and maintenance or restoration of native, late-seral overstory trees and forest



composition and structure within ranges of historic natural variability. Old growth tree stands are ecologically diverse and provide good breeding and feeding habitat for many bird and animal species, which have a preference or dependence on old growth (e.g., barred owl, great gray owl, pileated woodpecker). Much old growth habitat has already been lost, and we believe it is important that management direction prevent continued loss of this habitat and promote long-term sustainability of old growth stands, and restore where possible the geographic extent and connectivity of old growth. Although we also believe that thinning and underburning to reduce fuel loads and ladder fuels in old growth may be appropriate where it increases long-term protection for old growth stands.

14. We are also pleased that the proposed project would meet the Northern Rockies Lynx Amendment standards in all LAUS (page 3-144), and the DEIS states that the project “may affect, but is not likely to adversely affect” the threatened Canada lynx (page 3-145), and would have “no effect” on the threatened gray wolf and threatened grizzly bear (page 3-142). The DEIS also indicates that the St. Regis River is identified as a core bull trout area (page 3-94), and that bull trout critical habitat in the St Regis River, Big Creek, and Twelvemile Creek are located below the project area, and indicates that the proposed project “may affect, but is not likely to adversely affect” the threatened bull trout (page 3-116).

If it is determined that the finally selected project alternative could adversely affect any threatened or endangered species (e.g., grizzly bear, lynx, gray wolf, bull trout) the final EIS should include the Biological Assessment and associated U.S. Fish & Wildlife Service (USFWS) Biological Opinion or formal concurrence for the following reasons:

- (1) NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made;
- (2) The CEQ Regulations for Implementing the Procedural Provisions of NEPA strongly encourage the integration of NEPA requirements with other environmental review and consultation requirements so that all such procedures run concurrently rather than consecutively (40 CFR 1500.2(c) and 1502.25); and
- (3) The Endangered Species Act (ESA) consultation process can result in the identification of reasonable and prudent alternatives to preclude jeopardy, and mandated reasonable and prudent measures to reduce incidental take. These can affect project implementation.

Since the Biological Assessment and EIS must evaluate the potential impacts on listed species, they can jointly assist in analyzing the effectiveness of alternatives and mitigation measures. EPA recommends that the final EIS and Record of Decision not be completed prior to the completion of ESA consultation. If the consultation process is treated as a separate process, the Agencies risk USFWS identification of additional significant impacts, new mitigation measures, or changes to the preferred alternative.

If these changes have not been evaluated in the final EIS, a supplement to the EIS would be warranted.

15. We are also pleased that the DEIS predicts that the project will not impact the sensitive species in the area (e.g., bald eagle, Coeur d'Alene salamander, harlequin duck, flammulated owl, Townsend's big-eared bat, fisher, wolverine, western toad, northern leopard frog, pages 3-146 to 162), and would have only a minor impact on black-backed woodpecker. The DEIS also states that while the proposed project may impact individual northern goshawks and pileated woodpeckers, but it would not result in a trend toward federal listing or reduced viability for goshawks or woodpeckers).

The DEIS states that there are known nests or nest territories for the bald eagle and northern goshawk within the project area. Will eagle and goshawk nest territories within the project area be marked so that they can be avoided during logging activities? Will monitoring for nest sites of other bird species occur so that nests can be avoided during logging?

#### Noxious Weeds

16. We appreciate the analysis and discussion of noxious weeds management for the proposed project (beginning on page 3-53). Weeds are a great threat to biodiversity and can often out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. As you know activities that disturb soils such as timber harvest, road construction, and burning increase potential for weed infestations.

We are pleased that weed control measures are proposed (page 2-11) including washing off-road equipment prior to entering the project area, and minimizing soil disturbance, and seeding bare soil. It is important to seed all sites with disturbed soils such as landings, skid trails, and along roads with weed-free native grass seed. We also encourage tracking of weed infestations, control actions, and effectiveness of control actions in a Forest-level weed database.

EPA supports integrated weed management and conduct of weed control measures at the earliest stage of invasion to reduce impacts to native plant communities. As we noted during our comments on the recent Lolo National Forest Integrated Weed Management EIS it is important to ensure that appropriate measures are incorporated into applications of herbicides, especially aerial applications, to mitigate risks of adverse health and environmental effects. The many mitigation measures identified in the Lolo NF Integrated Weed Management EIS to avoid drift of potentially toxic herbicides to aquatic areas or other sensitive areas should be utilized during weed treatments in the DeBaugan project area (e.g., measures such as adequate streamside buffers, mechanical weed removal in sensitive areas, flagging sensitive areas on the ground, spray nozzles that produce larger droplets to reduce drift, wind monitoring, herbicide monitoring, etc.).



We believe prevention of weed invasions is the cheapest and best way to control weeds. Measures that we often recommend for preventing spread of weeds from source areas to uninfested areas include:

- ☐ Ensure that equipment tracks and tires are cleaned prior to transportation to an uninfested site.
- ☐ Focus control efforts at trail heads and transportation corridors to prevent tracking of seed into uninfested areas.
- ☐ Attempt to control the spread from one watershed to another to reduce water as a transport vector.
- ☐ If a localized infestation exists and control is not a viable option, consider rerouting trails or roads around the infestation to reduce available vectors for spread.
- ☐ Establish an education program for industrial and recreational users and encourage voluntary assistance in both prevention and control activities.
- ☐ Reseed disturbed sites as soon as possible following disturbance.

#### Air Quality

17. The proposed project includes prescribed ecosystem burning on 1142 acres, as well as burning of 1512 acres following harvest, and pile burning of 706 acres of harvested ground (Table 2-1, page 2-5). EPA supports use of prescribed burning to manage vegetation and fire risk, although as you know smoke from fire contains air pollutants, including tiny particulates (PM<sub>10</sub> and PM<sub>2.5</sub>) which can cause health problems, especially for people suffering from respiratory illnesses such as asthma or emphysema, or heart problems. Particulate concentrations that exceed health standards have been measured downwind from prescribed burns. In addition, as stated in the DEIS prescribed fire could have impacts on non-attainment areas, Federally-designated Class I areas, and smoke can reduce visibility and diminish the appreciation of scenic vistas (Wilderness Areas or National Parks).

Thank you for discussing potential project effects on air quality (pages 3-64 to 3-70). We appreciate inclusion of estimates of typical downwind concentrations of PM<sub>2.5</sub> in Table 3.4-3 (page 3-69), although we note that the acres show in this table do not appear to add up to the acreage burned identified on page 2-5 (i.e., 1142 acres with only prescribed burning, 1512 acres burned following harvest, and pile burning of 706 acres of harvested ground).

Thank you also for including identification of nearby Class I air quality areas of the Flathead Indian Reservation and Cabinet Mountains Wilderness Area, and indicating that prevailing winds would carry smoke away from local residences and the Cabinet Mountains Wilderness Area and Thompson Falls non-attainment area. We understand that the Flathead Indian Reservation is 26 miles from the area so that smoke impacts to this Class I area are considered minimal (page 3-70).

Thank you also for indicating that all prescribed burning will be implemented in accordance with the Idaho/Montana Smoke Management Group, and for discussing EPA's *Interim Air Quality Policy on Wildland and Prescribed Fire* (page 3-66). Conduct of prescribed burning in accordance with certified State Smoke Management Plans (i.e., scheduling burning during periods of favorable meteorological conditions for smoke dispersal) is consistent with the *Interim Air Quality Policy*, which can be found at: <http://www.epa.gov/ttn/oarpg/t1/memoranda/firefnl.pdf>. It may be of interest to the public to display the website for the Montana/Idaho State Airshed Group in the FEIS, <http://www.smokemu.org>.

It is important to disclose that even though burns will be scheduled during periods of favorable meteorological conditions to disperse smoke, the weather can change causing smoke not to disperse as intended. This can be especially problematic for smoldering pile burns when a period of poor ventilation follows a good ventilation day. Smoke from prescribed burning often collects in valley bottom areas for a short time following burning. Also, if there is potential for smoke to drift into populated areas there should be public notification prior to burns. We suggest that notices be placed in the local newspaper at the beginning of each burn season, and additional efforts be made to contact any residents near burns by telephone to make them aware of burns and potential air quality impacts. This will help sensitive people (e.g., people suffering from respiratory illnesses such as asthma or emphysema, or heart problems) to plan accordingly.

We encourage use of smoke management techniques during burns to minimize smoke in populated areas as well as visibility effects. Each prescribed burn site will have unique characteristics, but smoke impacts can be minimized by burning during weather conditions with optimal humidity levels and wind conditions for the types of materials being burned. Smoke impacts can also be minimized by limiting the amount of materials and acreage burned at any one time.

We also recommend that efforts be made to educate home owners on the wildland-urban interface who build in fire adapted forest ecosystems regarding the need to use less flammable building materials and to manage fuel and vegetation near their homes (see websites [www.firewise.org](http://www.firewise.org) and [www.firelab.org](http://www.firelab.org)). General sound fire management practices include:

- \* Reducing the dangerous build-up of dead trees, branches, and vegetative matter on forest floors by using prescribed fire or the selective thinning, pruning, or cutting and removal of trees by mechanical means.

- \* Whenever possible, mechanical thinning can be used as an effective "pretreatment" to prescribed burning, although we also urge consideration of water quality, fishery, and ecological impacts along with air quality impacts when planning management actions (e.g., focusing mechanical treatments near roads to avoid or minimize new road construction). Mechanical treatments may be appropriate where the risk of the escape of prescribed burns is high and where nearby home developments may be threatened.



\* Using smoke management techniques during burns to minimize smoke in populated areas as well as visibility effects. Each prescribed burn site will have unique characteristics, but smoke impacts can be minimized by burning during weather conditions with optimal humidity levels and wind conditions for the types of materials being burned. Smoke impacts can also be minimized by limiting the amount of materials and acreage burned at any one time. Careful scheduling of the many burning activities to coincide with proper climatological and meteorological conditions helps avoid air quality problems.

\* Implementing fire hazard awareness and mitigation programs for the public. Closure of back country roads during high fire risk periods may reduce potential for human caused fires.

Additional information on air quality issues is available from EPA websites, [http://www.epa.gov/air/oaq\\_caa.html/](http://www.epa.gov/air/oaq_caa.html/), and on the Forest Service Region 1 air quality website <http://www.fs.fed.us/r1/gallatin/resources/air/guidance/> . We also recommend that efforts be made to educate home owners on the wildland-urban interface who build in fire adapted forest ecosystems regarding the need to use less flammable building materials and to manage fuel and vegetation near their homes (see websites [www.firewise.org](http://www.firewise.org) and [www.firelab.org](http://www.firelab.org)